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EXAMINER

ODLAND, DAVID E

| ART UNIT | PAPER NUMBER |
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2662

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/406,729

Applicant(s)

HWANG ET AL.

Examiner

David Odland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) 14-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 34-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 14-33 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The following is a response to the amendments filed on 04/21/2003.

Election/Restrictions

2. Newly submitted claims 14-33 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 14 recites a method for processing data that is communicated between layers of a protocol stack including formatting dynamic and semi-static parts (see class 370/469). This invention is distinct from the invention that was originally filed, which was related to a method of formatting a wireless transmission channel (see class 370/310).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-33 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-13 and 34-62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not

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described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites, "...deciding a bearer service profile type...according to a bearer service combination type..." in line 7. The specification does not adequately describe how the bearer service combination type is used to decide which bearer service profile type is to be used, in such a manner that would teach one of ordinary skill in the art to make and use the claimed invention. Namely, there is no adequate description in the specification as to the relationship between any decided bearer service type and any corresponding bearer service combination type.

Claim 1 also recites, "...selecting a transport format within a transport format combination set according to the decided bearer service profile type..." in lines 6 and 7. The specification does not adequately describe how the bearer service profile type is used to select any particular transport format that is within a transport format combination set, in such a manner that would teach one of ordinary skill in the art to make and use the claimed invention.

Claims 2-9 are rejected because they depend on claim 1.

Claims 6 and 11 recite that the radio environmental models are classified according to periodic, on-demand, and threshold information, in lines 4 and 5. The specification does not adequately describe how the periodic, on-demand, and threshold information is related to the different environmental models, in such a manner that would teach one of ordinary skill in the art to make and use the claimed invention. Namely, there is no relationship drawn between the periodic, on-demand, and threshold information and radio environment models so that one of ordinary skill in the art could make and use the invention.

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Claims 7 and 10 recite configuring said transport format including attributes of a dynamic part and semi-static part according to said transport format indicator. The specification does not adequately describe how the transport format indicator is used to configure the dynamic part and semi-static part in such a manner that would allow one of ordinary skill in the art to make and use the claimed invention. Namely, there is no relationship drawn between any configured dynamic part and semi-part and a corresponding transport format indicator or how any particular transport format indicator would be used to configure the dynamic and semi-static parts to any particular configuration, in such a manner that one of ordinary skill in the art could make and use the invention.

Claim 10 also recites, "...assigning a transport format combination set according to said bearer service profile type..." in lines 11 and 12. The specification does not adequately describe how the bearer service profile type is used to assign a transport format combination set in such a manner that would allow one of ordinary skill in the art to make and use the claimed invention.

Claims 11-13 are rejected because they depend on claim 10.

Claims 34 and 58 recites, "...determining a radio environment measurement..." The specification does not adequately describe how a radio environment measurement is determined, in such a manner that would allow one of ordinary skill in the art to make and use the claimed invention.

Claims 35-57, 59 and 60 are rejected because they depend on claims 34 and 58.

Claim 46 recites that the environment measurement determination comprises determining one of an indoor, pedestrian and vehicular environment model. The specification does not

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adequately describe how such models are determined in such a manner that would allow one of ordinary skill in the art to make and use the claimed invention.

Claims 61 and 62 recite "...determining and transmitting a transport format combination set based on the bearer service type and the radio environment information..." The specification does not adequately describe how the bearer service type and radio environment measurement are used to determine and transmit a transport format combination set, in such a manner that would teach one of ordinary skill in the art to make and use the claimed invention.

Claim 62 recites configuring a transport format combination indicator including at least one attribute of a dynamic part and semi-static part based on the transport format combination set and the transport format indicator. The specification does not adequately describe how the transport format indicator and transport format combination set are used to configure the transport format combination indicator, in such a manner that would allow one of ordinary skill in the art to make and use the claimed invention.

5. Claims 8 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 8 and 12 both recite that the attributes include a transport block set size. However, the specification only described a setup size as being associated with dynamic part and not the size of the block set.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-13 and 34-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites, in lines 9 and 10, selecting a transport format from within a transport format combination set. This implies there is a set of transport formats from which one is selected but the claim also recites transmitting a transport format indicator according to the transport format combination set. It is unclear how a set of formats can be used to transmit the transport format combination indicator.

Claim 1 also recites "...said bearer service..." in line 5. There is a lack of antecedent basis for this limitation of the claim.

Claims 1 and 10 recite a "...transport format combination set..." It is unclear what is meant by a 'transport format combination set'.

Claims 6 and 11 recite, in lines 4 and 5, that the radio environmental models are classified according to periodic, on-demand, and threshold information. It is unclear what is this information is regarding (i.e. where is the periodic, on-demand, and threshold information

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derived from). Namely, it is unclear what the terms and/or values ‘periodic’, ‘on-demand’ and ‘threshold information’ are relating to.

Claim 7 recites a dynamic and semi-static part of the transport format. It is unclear exactly what parts of the transport format these parts are referring to and why, functionally, one of the parts is dynamic and the other semi-static, as their names imply.

Claims 8 and 12 recite, “...said attributes of said dynamic part include...a transport block setup size...” in lines 2 and 3, respectively. It is unclear what is meant by a ‘transport block setup size’.

Claims 9 and 13 recite, “...attributes of said semi-static part include...outer interleaving, inner coding, and inner interleaving...” in lines 2-5, respectively. It is unclear what is meant by ‘outer interleaving, inner coding, and inner interleaving’.

Claims 2-9 are also rejected because they depend on claim 1.

Claims 11-13 are rejected because they depend on claim 10.

Referring to claims 34 and 58, it is unclear what is meant by a ‘wireless service’.

Referring to claims 34, 58, 61 and 62, it is unclear what is meant by a ‘transport format combination set’.

Referring to claim 47, it is unclear what is meant by a ‘radio bearer service profile type’.

Referring to claim 52, it is unclear what is meant by a ‘transport format set’.

Claims 35-60 are rejected because they depend on rejected claims.

Referring to claims 61 and 62. It is unclear what is meant by ‘bearer service type’.

Claim 62 recites “...the transport format indicator...” in line 8. There is a lack of antecedent basis for this limitation of the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 34-62, as best understood, rejected under 35 U.S.C. 103(a) as being unpatentable over Henry et al. (USPN 5,845,215), hereafter referred to as Henry, in view of Tajima (USPN 5,381,444), hereafter referred to as Tajima.

Referring to claims 34 and 58, Henry discloses a method comprising: determining at least one type of wireless service (terminals can operate in either CDPD or D-AMPS modes (see column 11 lines 38-67)); and determining a transport format combination set according to said at least one type of wireless service (when a mode is selected the corresponding data format associated with that mode is inherently determined (see column 11 lines 38-67)). Henry does not disclose determining a radio environment measurement and determining the transport format according to the radio environment measurement. However, Tajima discloses a system wherein the propagation of radio waves in a radio environment is measured (see column 1). It would have been obvious to one skilled in the art at the time of the invention to use the radio environment measurement system disclosed in Tajima in the system of Henry because knowing which mode to operate the terminals in will help optimize communications. Namely, the terminals of Henry operate in a CDPD mode, which is a digital packet data based transmission protocol, and they also operate in a D-AMPS mode, which is an analog voice call type protocol.

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Therefore, measuring and determining the radio environment (i.e. how the radio wave propagate) will allow the terminal to decide if voice calls, which require very small propagation delays, can be properly placed, thereby optimizing the terminals of Henry.

Referring to claim 35, Henry discloses the system discussed above. Furthermore, Henry discloses that the determining at least one type of wireless service is implemented in an application layer (the mode of the terminal is determined by a user of the terminal and therefore inherently takes place at the application layer (see abstract)).

Referring to claims 36, 37 and 48, Henry discloses the system discussed above. Henry does not disclose that the determining a radio environment measurement and determining the transport format combination set are implemented in a radio resource control layer. However, It would have been obvious to one skilled in the art at the time of the invention to implement the mode determination and format operations in a radio resource control layer, rather than the application layer, because doing so would make the terminals of Henry more user friendly since the user would not have to manually control switching between modes.

Referring to claim 38, Henry discloses the system discussed above. Furthermore, Henry discloses that the determining at least one type of wireless service is deciding a bearer service combination type (different mode combinations can be determined (see figure 5)).

Referring to claim 39, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one type of wireless service comprises speech service (one of the modes is for D-AMPS, which is used for voice calls (see figure 5)).

Referring to claim 40, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one type of wireless service comprises circuit data service (one of the

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modes is for D-AMPS, which is an analog circuit based protocol used for voice calls (see figure 5)).

Referring to claim 41, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one type of wireless service comprises packet data service (one of the modes is for CDPD which is a digital data packet based protocol (see figure 5)).

Referring to claim 42, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one type of wireless service comprises a combination of simultaneous speech service and packet data service (one of the modes is for a combined D-AMPS and CDPD (see figure 5)).

Referring to claim 43, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one type of wireless service comprises a combination of simultaneous packet data service and circuit data service (one of the modes is for a combined D-AMPS and CDPD (see figure 5)).

Referring to claim 44, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one type of wireless service comprises a combination of speech service and circuit data service (one of the modes is for a combined D-AMPS and D-AMPS packet data (see figure 5)).

Referring to claim 45, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one type of wireless service comprises a combination of simultaneous speech service, packet data service, and circuit data service (one of the modes is for a combined D-AMPS, D-AMPS packet data and CDPD protocols (see figure 5)).

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Referring to claim 46, Henry discloses the system discussed above. Henry does not disclose that the determining the radio environment measurement comprises determining one of an indoor environment model, a pedestrian environment model and a vehicular environment model. However, Tajima discloses a system wherein the radio environment is measurements include propagation of a radio wave off a wall of a building (a pedestrian environment model). It would have been obvious to one skilled in the art at the time of the invention to use this measurement system in the system of Henry because such measurements would be beneficial for users of the terminals who are outside, thereby making the system of Henry more reliable in this type of environment.

Referring to claim 47, Henry discloses the system discussed above. Furthermore, Henry discloses that the determining the transport format combination set includes deciding a radio bearer service profile type (inherently, the formatted calls made by users of the terminals in Henry have information related to the users profile (i.e. the users phone number, number of minutes for billing, etc. are included formatted and transmitted to the proper service provider to be processed).

Referring to claims 49 and 50, Henry discloses the system discussed above. Henry does not disclose that the determining a radio environment measurement and determining the transport format combination set is implemented in a medium access control layer or a physical layer. However, It would have been obvious to one skilled in the art at the time of the invention to implement the mode determination and format operations in a medium access control layer and a physical layer, rather than the application layer, because doing so would make the terminals of

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Henry more user friendly since the user would not have to manually control switching between modes.

Referring to claim 51, Henry discloses the system discussed above. Furthermore, Henry discloses selecting at least one transport format within the transport format combination set (inherently, when a mode is determined the format used by that mode is implemented in order for communication to take place (see column 11 and figure 5)).

Referring to claim 52, Henry discloses the system discussed above. Furthermore, Henry discloses that the at least one transport format is within a transport format set (when a mode is determined the format used by that mode is implemented in order for communication to take place (see column 11 and figure 5)).

Referring to claim 53, Henry discloses the system discussed above. Furthermore, Henry discloses that the selecting at least one transport format is implemented in a medium access control layer (when a mode is determined the format used by that mode is implemented by a protocol layer that controls access to the transmission medium (see column 11 and figure 5)).

Referring to claim 54, Henry discloses the system discussed above. Furthermore, Henry discloses transferring a transport format indicator to a physical layer (when a mode is determined the data is transmitted at the physical layer and so inherently some indicator must be present to inform the physical layer of the format of the particular chosen mode (see column 11 and figure 5)).

Referring to claim 55, Henry discloses the system discussed above. Furthermore, Henry discloses the physical layer transmits a transport format combination indicator to a dedicated

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physical control channel based on the transport format indicator (the format indication is sent over a digital control channel DCCH (see claim 4)).

Referring to claim 56, Henry discloses the system discussed above. Furthermore, Henry discloses that the dedicated physical control channel is a channel between two wireless devices (the DCCH is located between two wireless devices (see column 11 and claim 4)).

Referring to claim 57, Henry discloses the system discussed above. Furthermore, Henry discloses that the two wireless devices comprise at least one of a mobile station and a base station (the communication takes place between a base station and wireless terminal (see column 11)).

Referring to claim 59, Henry discloses the system discussed above. Henry does not disclose that the apparatus is a base station. However, it would have been obvious to one skilled in the art at the time of the invention to implement the system of Henry at the base station of the system because that would give the service providers, who operate the base stations, the ability to determine transfer modes as well as the wireless terminal users, thereby making the system of Henry more versatile.

Referring to claim 60, Henry discloses the system discussed above. Furthermore, Henry discloses that the apparatus is a mobile station (the apparatus is a mobile wireless terminal (see figure 5)).

Referring to claim 61, Henry discloses a method comprising: receiving a bearer service type from an upper layer (terminals determine to operate in either CDPD or D-AMPS modes, which is determined in an upper layer of the protocol stack (see figure 5 and column 11 lines 38-67)); and determining and transmitting a transport format combination set based on the bearer

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service type (when a mode is selected the corresponding data format associated with that mode is inherently determined (see column 11 lines 38-67)). Henry does not disclose receiving radio environment information from a mobile station and using that information to determine a transport format combination type. However, Tajima discloses a system wherein the propagation of radio waves in a radio environment is measured (see column 1). It would have been obvious to one skilled in the art at the time of the invention to use the radio environment measurement system disclosed in Tajima in the system of Henry because knowing which mode to operate the terminals in will help optimize communications. Namely, the terminals of Henry operate in a CDPD mode, which is a digital packet data based transmission protocol, and they also operate in a D-AMPS mode, which is an analog voice call type protocol. Therefore, measuring and determining the radio environment (i.e. how the radio wave propagate) will allow the terminal to decide if voice calls, which require very small propagation delays, can be properly placed, thereby optimizing the terminals of Henry.

Referring to claim 62, Henry discloses a method comprising: receiving a bearer service type from an upper layer (terminals determine to operate in either CDPD or D-AMPS modes, which is determined in an upper layer of the protocol stack (see figure 5 and column 11 lines 38-67)); determining and transmitting a transport format combination set based on the bearer service type (when a mode is selected the corresponding data format associated with that mode is inherently determined (see column 11 lines 38-67)); configuring a transport format combination indicator including at least one attribute based on the transport format combination set (the format is indicated to lower protocol layers in order to send the data (see figure 5)) and the transport format indicator (the chosen mode has a particular format to which data is transmitted

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by); and transmitting the transport format combination indicator on a dedicated physical control channel (the format indicator is sent over a digital control channel DCCH (see claim 4)). Henry does not disclose that the indicator includes at least one of a dynamic part and a semi-static part. However, it would have been obvious to one skilled in the art to implement such parts in the system of Henry because doing so would make the system of Henry more flexible since neither dynamic or semi-static parts are permanent attributes and thus can be changed according to need.

Response to Arguments

10. Applicant's arguments filed 04/21/2003 have been fully considered but they are not persuasive.

On page 16 of the response, regarding the 35 USC 112 first paragraph rejection of claim 1, the Applicant contends that present application (on page 7 lines 14-25) does adequately disclose how the bearer service combination type is used to decide which bearer service profile type is to be used. However, a careful look at this section and all sections of the specification does not adequately describe how this process is done. Page 7 line 14-25, of the specification, does not adequately describe how the periodic, on-demand and threshold information is measured or what this information is related to nor does it adequately describe how the environment is measured. These inadequately described measurements are used to determine how the bearer service combination type is used.

Conclusion

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11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Odland, who can be reached at (703) 305-3231 on Monday – Friday during the hours of 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached at (703) 305-4744. The fax number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, who can be reached at (703) 305-4750.

deo

June 23, 2003


HASSAN KIZOU
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